DOCUMENT RESUME

ED 365 367 JC 940 017

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TITLE Evaluating Workplace Education Programs.
PUB DATE 31 Aug 93
NOTE 10p.; Paper presented at "Establishing Effective Job Training Programs" sponsored by the Michigan Department of Education (Flint, MI, August 31, 1993).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150) -- Tests/Evaluation Instruments (160)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Community Colleges; Computer Attitudes; *Employee Attitudes; *Evaluation Methods; Inplant Programs; *Inservice Education; *Lifelong Learning; Longitudinal Studies; *Outcomes of Education; Participant Satisfaction; Portfolios (Background Materials); Postsecondary Education; Pretests Posttests; Program Evaluation; *Student Attitudes; Two Year Colleges

ABSTRACT

The Workplace Project (WPP) at Alpena Community College, in Michigan, uses a range of assessment instruments to measure learner performance in workplace classes. The Test of Adult Basic Education is administered at the beginning of the course to establish a baseline standardized test score, and again at the end of course to measure gains. Also, instructor-designed, criterion-referenced tests are administered at the beginning and end of courses to measure gains related to the course material. A third method is the use of goal/objective inventories completed by learners at the outset of the course and open-ended exit surveys at the end to measure learner perceptions of gains. Student portfolios, or collections of assessment devices, journal entries, and the student's best work, are another method which help students develop self-assessment and critical thinking techniques. A survey conducted by the WPP at the conclusion of its first workplace grant project found that 76% of the project participants reported that the project had encouraged them to continue their education, 42% said that they read and wrote more after participation, and 65% reported salary increases. A second study of the impact of WPP courses at a local business on employees' calculator usage, confidence as workers, worker independence, and confidence as learners also found positive effects on learner outcomes. (ECC)

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# Michigan Department of Education

# "Establishing Effective Job Training Programs"

Flint, Michigan
August 31, 1993

## Evaluating Workplace Education Programs

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Michigan Department of Education
"Establishing Effective Job Training Programs"

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**Evaluating Workplace Education Programs**

**By Don MacMaster**
**Assistant Dean**
**Director of Workforce Development**
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(Opening remarks)

The WPP uses a range of assessment instruments to measure learner performance in workplace classes. The TABE (Test of Adult Basic Education) is given at the beginning of class to establish a baseline standardized test score, then again at the completion of class to measure if gains have been made. A second assessment device is the criterion-referenced test, also administered pre and post, which is devised by the instructor and is designed to focus on the material covered in class. A third tool is the IEP (Individual Education Plan), completed and signed by the adult learner, which nails down his/her goals for the course at the outset. At the conclusion of the course, exit surveys are given, allowing learners to respond on a five-point scale to questions pertaining to the quality of instruction and how well the course met the needs they identified in their IEP checklist. In most cases, these exit surveys include open-ended questions that allow learners to address issues such as the extent of application of the material covered in class to their personal or professional lives or any changes in their attitudes toward learning that they attribute to

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workplace classes. These four devices provide most of the quantitative data generated in WPP courses.

A fifth assessment device is the portfolio, which functions on a number of levels. First, the portfolio serves as a handy compilation of the other assessment devices; students are encouraged to consult their portfolio, examine their work, and assess for themselves how much progress they're making toward the goals they set at the beginning of the course. Because a primary goal in establishing a climate supportive of lifelong learning is to focus the learner on his/her own self-assessment, the portfolios are excellent models in this regard.

Also contained in the portfolios are learner journal entries, reflection pages upon which learners explore on a daily basis some aspect of their learning journey. A strength of portfolios over standardized tests is that they tend to validate the notion that learning is more process than product. For example, Janet Fulton, WPP Reading Instructor, devised a checklist derived from learner IEPs, worked with each learner individually to come up with a standard for satisfactory attainment of the specific competencieson the checklist, then developed curriculum that kept each learner focused on meeting his/her own goals.

Another strength of portfolios is that in the process of selecting the best work to go into their portfolio, adult learners demonstrate the critical thinking skills that carry over into their lives outside the workplace classroom. A portfolio becomes a kind of walking resume, a living and breathing document that reveals a pattern of personal and professional growth far more in keeping with the principles of lifelong learning than what learners get out of most quantitative data.

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The research I've enclosed summarizes two aspects of our project. The first is a survey of all learners who took classes in our first workplace grant project (8/91 - 1/93). We were interested primarily in whether they felt that their workplace experience had any impact on furthering their education, improving their job status, or changing their attitudes toward family literacy and community involvement. The second is a longitudinal study of a small manufacturing company we've worked with and the impact of workplace classes on company and employee productivity. We trace four main indicators in the survey: calculator usage, confidence and ability to work with customers, worker independence, and learner confidence. On a scale of 1 - 5, with 5 the highest, we surveyed all employees, some of whom hadn't taken workplace classes, and all the supervisors so we could derive anchored ratings. Our primary reference tool is Lloyd and Mikulecky's *Evaluating the Impact of Workplace Literacy Programs*.

## Voluntary Employee Education Survey

The following are the average answers on a scale of 1 - 5, with 5 the highest.

| | | Employees With Previous Classes | Employees With No Previous Classes | Overall Avg. |
|---|---|---|---|---|
| (1) | Please rate the use of calculators on the shop floor prior to the first WPP Math class. | 2.4 | 2.5 | 2.45 |
| (2) | Please rate the use of calculators on the shop floor now. | 4.2 | 4 | 4.1 |
| (3) | If you see an increase in the use of calculators on the shop floor, how much of that increase do you attribute to the WPP math classes? | 4.2 | 4 | 4.1 |
| (4) | Please rate your understanding of computers prior to the WPP. | 1.4 | 1 | 1.2 |
| (5) | Please rate your understanding of computers now. | 2.5 | - | 2.5 |
| (6) | If you see improvements in your understanding of computers, how much of that improvement do you attribute to workplace classes? | 3.4 | - | 3.4 |
| (7) | How important is learning computers to your job now? | 2.9 | 3.5 | 3.2 |
| (8) | How important will learning computers be to your job in the future? | 3.9 | 4.5 | 4.2 |
| (9) | How confident were you that you could learn shop math prior to your first workplace class? | 4 | - | 4.0 |
| (10) | How confident are you now? | 4.8 | - | 4.8 |
| (11) | How much of what you've learned in class do you use on the job? | 3.2 | 2.0 | 2.6 |
| (12) | Please rate your productivity prior to your first WPP class. | 3.5 | 4.0 | 3.75 |
| (13) | Please rate your productivity now. | 4.3 | 4 | 4.15 |
| (14) | Please rate company productivity prior to the first WPP class. | 2.8 | 4 | 3.4 |
| (15) | Please rate company productivity now. | 3.9 | 4.5 | 4.2 |

## Voluntary Supervisor Education Survey

The following are the average answers on a scale of 1 - 5, with 5 the highest

| | Overall Average |
|---|---|
| (1) Please rate the use of calculators on the shop floor prior to the first WPP Math class. | 1 |
| (2) Please rate the use of calculators on the shop floor now. | 3.6 |
| (3) If you see an increase in the use of calculators on the shop floor, how much of that increase do you attribute to the WPP math classes? | 4 |
| (4) Please rate the overall computer knowledge of employees in the shop prior to the WPP. | 1.5 |
| (5) Please rate the overall computer knowledge of employees in the shop at the present. | 2.5 |
| (6) If you see improvements in the overall computer knowledge of the shop floor employees, how much of that improvement do you attribute to WPP classes? | 3.7 |
| (7) How important is learning computers to shop floor workers now? | 4.3 |
| (8) How important will learning computers be to shop floor workers in the future? | 4.5 |
| (9) Please rate worker attitudes toward learning prior to the WPP. | 2.8 |
| (10) Please rate worker attitudes toward learning now. | 4.3 |
| (11) Please rate worker attitudes toward learning among workers who haven't taken WPP classes. | 2.6 |

(over)

| | | |
|---|---|---|
| (12) | Please rate overall employee productivity prior to the first WPP class. | 3.5 |
| (13) | Please rate overall employee productivity now. | 4 |
| (14) | Please rate overall employee productivity among workers who haven't taken WPP classes. | 3 |
| (15) | If you see any improvement in overall employee productivity, how much of that improvement do you attribute to WPP classes? | 4.2 |
| (16) | Please rate company productivity prior to the first WPP class. | 3.2 |
| (17) | Please rate company productivity now. | 4 |
| (18) | If you see any overall improvement in company productivity, how much of that improvement do you attribute to WPP classes? | 4 |

In the space below, please list changes and/or improvements you've seen in workers who've taken WPP classes.

(1) - Less fear of learning new skills
- Employees recognize and accept the need for continuing education and are very open to it.

- Baker employees have always had an interest in learning and improving skills.
- WPP provides an avenue for this to occur.

- The employees don't ask as many questions on how to figure out material sizes; they even show they can figure out complex problems that they would have had to get help on.
- The attitude of the employees that have taken the classes has improved, they're even more willing to help their fellow workers with questions.
- The productivity level has improved a great deal due to the attitude of being able to complete a job on their own.

- Less questions asked, more understanding on how to figure things out by themselves where math is involved.

SURVEY SUMMARY FROM FIRST WORKPLACE GRANT
8/91 - 1/31/93

The WPP team recently mailed a follow-up survey to everyone who took workplace classes in the first round (September 1991 - January 1993). Specifically, we wanted to know if the classes had any long-term impact on attitudes toward lifelong learning, community involvement, family issues, or job status. Last month we printed some of the responses to the survey. Below is a continuation of that list.

*** *** ***

"Math helps me on the job and now other workers come to me for help."

"When I have trig problems to do, I just go ahead and figure out the angles. Before I had to wait for engineering."

"It showed me even at my age, I can still handle a classroom situation."

"It seems easier to learn now than it did when I had these classes in high school. Mostly because I want to learn them now, as before I felt it had no impact on the real world."

"Kendall Sumerix taught this old bird more than math. He taught me that I'm not to old to learn."

"I took a class on workplace reading CNC. Since then I got a job on a CNC machine. The reading class was great. I still use some of the skills I learned."

"More deference (is being) given to my opinions by others in my life."

"I can still hear words that I studied in Reading class."

"I feel my writing skills have improved greatly. Style, content, punctuation, all have improved."

"I'm more confident when I speak publicly."

"I try to understand both sides of story - try not to jump to conclusions or assume as much."

"The class enhanced my reading speed and in turn has enhanced my ability to absorb information on a daily basis."

"I believe it made me a better employee, knowing the company I work for cares enough to help educate me."

## Further Breakdown

— Fifty-six percent of respondents said that they have furthered their education since their first WPP class. Of this group, 67 percent took further WPP classes, 33 percent participated in company training, and 20 percent returned to college.

— Seventy-six percent of correspondents responded that it was the WPP that encouraged them to continue their education.

— Thirty-seven percent of respondents said that they find themselves helping their children more with their homework since WPP classes.

— Forty-two percent say that they read or write more since taking WPP classes.

— Seventeen percent said that the WPP had some input on their level of community involvement.

— Sixty percent feel more comfortable operating computers.

— Thirty-five percent have purchased a home computer since the WPP. Twenty-five percent said they haven't yet but plan to.

— Sixty-five percent of respondents indicated that they have either had salary increases, been promoted, or added new responsibilities at old wage levels since taking WPP classes.

# END

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## Date Filmed
## May 20, 1994